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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

DRAFT PERFORMANCE STANDARDS FOR FISH AND SHELLFISH

Growing consumer demand for affordable, high quality seafood and the need to protect fisheries resources from overharvesting are two key reasons for the interest in aquaculture research. Today, state-of-the-art research involving fish and shellfish often involves the use of biotechnology. To help aquatic researchers consider the safety/risks of their projects and better manage their research to minimize adverse ecological effects, USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC) has prepared voluntary performance standards entitled "Performance Standards for Safely Conducting Research with Genetically Modified Fish and Shellfish." According to the ABRAC, the Standards "should encourage the conduct of safe research to address important information gaps about environmental effects of particular genetically modified fish and shellfish and facilitate safe development of these modified organisms.

The Standards consist of three interrelated documents: the **flowcharts** which provide the decision-making pathway for assessing if there are specific risks and managing any identified risks of research projects; the **supporting text** which gives the scientific background for the questions and alternative decisions in the flowcharts; and the **worksheet** which is completed by the researcher and describes the rationale for the project's risk management measures. A computerized, interactive version of all three components may be forthcoming.

The Standards are in a "final draft" stage of development and will be the main topic of discussion at the June 26 meeting of ABRAC. The public is invited to attend. (See article below for details about ABRAC meeting.) Anyone wishing to receive a free copy of the Standards and flowcharts, may send a request by Fax to 202-720-5336. For more details, please call Alvin Young, OAB Director, at 202-720-5853.

ABRAC TO DISCUSS AQUATIC RESEARCH; PUBLIC INVITED TO ATTEND

USDA's ABRAC will meet June 26, 1995 to discuss comments to the draft document on performance standards for aquatic research (see article "Draft Performance Standards for Fish and Shellfish," above). Committee members will also discuss the impact of recommendations made by the Biotechnology Research Subcommittee, which reports to the Committee on Fundamental Science Research of the National Science and Technology Council. The public is invited to attend and may participate in the meeting as time and space permit.

The meeting takes place at the Westpark Hotel, Club Room, 1900 North Fort Myer Drive, Arlington (Rosslyn), VA 22209. It lasts from 9 a.m. to 5 p.m. For more information, please call either Alvin Young or Daniel Jones at 202-720-5853; Fax: 202-720-5336.

THIS RAISIN IS DOVine!

Scientists at USDA's Agricultural Research Service (ARS) in the Horticultural Crops Research Laboratory in Fresno, CA, have produced the first raisin grape from a lab technique called embryo rescue. Normally, an embryo produced from crossing two seedless parents is too small to survive. In this case, though, the scientists "rescued" the embryo, excised it, kept it alive with nutrients, and produced DOVine raisin grapevines. DOVine gets its name from the abbreviation for dry-on-the-vine.

When the canes are cut, DOVine dries naturally on the vine, yielding sweet, plump, finely wrinkled raisins. Grapes that become raisins on the vine are typically sweeter and plumper than grapes left to dry on trays on the vineyard floor. For more information, please call Marcia Wood, ARS research reporter, at 510-559-6070; Fax: 510-559-5882.

LICENSEE SOUGHT FOR ARS INVENTION

USDA's ARS is seeking a licensee for a carbohydrate polymer called alternan with potential applications in foods and cosmetics. ARS developed improved strains of the bacterium *Leuconostoc mesenteroides* that produce higher ratios of alternan to dextran and thereby lessens the need for costly separation procedures. Alternan has potential applications as a low-viscosity bulking agent/extender in foods and cosmetics and as a noncaloric, soluble food additive in artificially sweetened foods. The technology was developed by researchers at ARS's Biopolymer Research Unit in Peoria, IL and is the subject of a pending patent application. For more information, please call 309-685-4011.

ACCESS TO AGBIOTECH INFORMATION

Information Systems for Biotechnology, a joint project between Virginia Tech and the National Biological Impact Assessment Program (NBIAP) at USDA, is a computer-based information resource in agbiotech. The latest news in research and development, product commercialization, and regulatory information is accessible through the internet via ftp, gopher, and the World Wide Web (WWW).

Unlike other agbiotech gophers, the NBIAP gopher carries a suite of databases in which complex searches can be performed online. The BioMonitoring Database, which contains records of all field tests conducted under permit or notification, and all petitions for product deregulation, can be searched for records pertaining to a particular gene or trait, company, date, or location. Search output and related documents can be downloaded to the user's own computer. The database is updated regularly, with records and documents provided directly from USDA's Animal and Plant Health Inspection Service (APHIS).

To access the NBIAP Information System, use gopher, ftp, telnet, or WWW (<http://>) to connect to [ftp.nbiap.vt.edu](ftp://ftp.nbiap.vt.edu). For more information, please call Doug King at 703-231-3747; E-mail: nbiap@vt.edu

NEWS AROUND THE NATION (AND THE WORLD)

BIOTECHNOLOGY ON CAMPUS

This is the fourth in a series of articles profiling agricultural biotechnology programs at U.S. colleges and universities. This month we visit the University of Maryland Biotechnology Institute's Center for Agricultural Biotechnology (CAB).

CAB is one of four research centers of the University of Maryland Biotechnology Institute. Founded in 1987 and located in College Park, MD, CAB promotes basic and applied research, education and training, and economic development. Most CAB faculty have affiliations with other campuses of the University of Maryland System or with USDA's ARS in Beltsville, MD.

CAB's accomplishments include a poultry vaccine that is now used nationwide; improved diagnostic tests for the detection of viroids -- an important class of plant pathogens that afflict tomatoes, potatoes, and chrysanthemums -- and successful genetic transformation of a non-drosophilid insect (an insect other than a fly). Through inclusion of several biochemical engineering faculty, CAB aims to enhance technology transfer and to keep its scientists informed about economic needs in the State of Maryland. CAB faculty

includes 16 staff scientists, support staff, post-doctoral fellows, and graduate students. To learn more about CAB, please call its Director, Jerome Regier, at 301-405-1581; Fax: 301-314-9075; E-mail: regier@mbimail.umd.edu

NEXT MONTH: The University of Arizona's School of Agriculture

HUNGARY'S BIOTECH RESEARCH ACTIVITIES

Peppers, tomatoes, eggplant, onions, and carrots are the target vegetables for biotechnology research in Hungary. Hungary has made major strides in its research programs, according to the 1994 issue of *Hungarian Agricultural Research*. A few accomplishments include a highly efficient *in vitro* method of androgensis for Hungarian pepper types, bred pepper lines suitable for *in vitro* regeneration, and genetically modified eggplant with economically import genes inserted. Artificial seed production in eggplant and carrot as well as gene transfer of *Agrobacterium* into pepper using the gene gun are other projects being developed. Research is financed mainly by the Ministry of Agriculture and is carried out at the Institute for Plant Sciences of the Agricultural Biotechnology Center.

SYMPOSIA SERIES SCHEDULED AT NORTHWESTERN UNIVERSITY

The Summer Biotechnology Institute was established last year by the Northwestern University Center for Biotechnology as part of its friendly outreach program to industry, government, academia, and the general public. Every July, a series of free one-day symposia are held to highlight topics of emerging interest and to foster the exchange of ideas. The schedule for this summer is as follows:

- July 13: Gene Therapy
- July 14: Managing Health and Foods
- July 20: Biotechnology for Pollution Prevention
- July 21: Biotechnology: Policy and Trends
- July 27: Strategic Alliances -- Partnering for Profit
- July 28: Entrepreneurship: Converting Ideas Into Reality

For more details, please call 708-467-1453; Fax: 708-467-2180; E-Mail: biotech@nwu.edu.

ATCC ON INTERNET

The American Type Culture Collection (ATCC) is on the Internet where you can receive the latest information on all strains via gopher. These online catalogues are updated quarterly, including a new section on recently released strains. To connect, go directly

to ATCC's gopher server by pointing your gopher client at the address "culture.atcc.org". You can also browse through catalogues on the World Wide Web home page by opening the URL "http://www.atcc.org/". For more details, please send an E-mail message to help@atcc.org

IN CASE YOU WEREN'T THERE

- At a symposium sponsored by USDA's OAB and Georgetown University's Center for Food and Nutrition Policy, OAB Director Alvin Young and Catherine Woteki of the Office of Science and Technology Policy described the responsibility of government to both protect the consumer and encourage the biotechnology industry and basic research. Gerald Gaul of Georgetown University enjoined scientists to enter the public arena and work to narrow the communication gap between scientists and non-scientists by speaking without condescension in terms the public can understand. Others spoke about responsible consumer activism, the role of the media, and the potential of agbiotech to help feed the world. The symposium was entitled "Consumer Issues in Biotechnology" and was presented April 10 in Atlanta, GA, at Experimental Biology '95.

NEW PUBLICATIONS

- Community Documentation Centre on Biotechnology Safety and Regulation, Bulletin No. 2. Edited by G. Van Den Eede and G. Pellegrini. Published by the Institute for Systems Engineering and Informatics. February 1995. To order a copy, please call +39-332-78.52.39; Fax: +39-332-78.54.83.
- Final Draft: *Performance Standards for Safely Conducting Research with Genetically Modified Fish and Shellfish* (Document No. 95-01) and *Flow Charts and Accompanying Worksheets* (Document No. 95-02). April 1995. Prepared by USDA's ABRAC. To request copies, please send a fax to 202-720-5336.
- Summary Report of a Workshop on Phytoremediation Research Needs. Prepared by the Department of Energy. December 1994. To order, write to the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, VA 22161.
- *Agricultural Ethics: Issues for the 21st Century*, by P. Hartel, K. George, and J. Vorst, ed. Published by the American Society of Agronomy, Crop Science Society of America, and the Soil Science Society of America. Madison, WI. To order, please send a fax to 1-608-273-2021.

- Minutes of USDA's ABRAC: 1) September 28, 1994 Working Group on Aquatic Biotechnology and Environmental Safety; 2) November 17, 1994 Meeting in Monterey, CA. To receive complimentary copies, please send a request by Fax to 202-720-5336.
- "Consumer Attitudes About Food Biotechnology (Project Summary and Project Report)" Studies conducted by T. Hoban and P. Kendall. 1993. Extra copies are available from OAB by sending a fax to 202-720-5336.
- *Environmental Biotechnology*. Prepared by the EC-US Task Force on Biotechnology Research. October 1994. To receive a copy, please send a request by fax to 202-720-5336.

UPCOMING MEETINGS

May 14-17: "Biotechnology's Role in the Genetic Improvement of Farm Animals." Beltsville, MD. Sponsored by USDA's Agricultural Research Service. For more details, please call Virginia Hupfer at 301-504-6108; Fax: 301-504-6357.

May 17-18: "Applications of Cellular and Molecular Biology to Animal Science Research." Beltsville, MD. Annual meeting sponsored by the North Central Region-150 of CSREES Research Directors. For details, please call Nancy Aldridge at 317-494-8362; E-mail: nma@aes.purdue.edu

May 20-24: 1995 Congress on In Vitro Biology: "Interplay of Cells with their Environment." Denver, CO. Sponsored by the Society for In Vitro Biology. Please call 410-992-0946; Fax: 410-992-0949.

May 20-25: BIO's Ninth International Meeting and Exhibition. San Francisco, CA. Sponsored by the Biotechnology Industry Organization. For details please call 202-857-0244; Fax: 202-331-8132.

May 22-24: University of Illinois Functional Food for Health Retreat. Nordic Hills Resort and Conference Center. Itasca, IL. For details, please call Rhonda Witwer at 312-996-1203.

May 24-27: NABC 7: Genes for the Future: Discovery, Ownership, Access. Columbia, MO. Sponsored by the National Agricultural Biotechnology Council. For more information, please call Carroll Lewis at 314-882-7488; Fax: 314-882-0388.

May 30-June 1: 13th Biotechnology Conference. Wiesbaden, Germany. For details, please call +069-7564-0; Fax: +49-69-7564201.

June 4-9: Second Latin American Meeting on Plant Biotechnology. Puerto Iguazu, Argentina. Write to Alejandro Mentaberry, Southern Cone Coordinator, INGEBI-CONICET, Obligado 2490, 1428 Buenos Aires, Argentina; Fax: 55-1-786-8578.

June 6-8: The 7th Symposium on Environmental Releases of Biotechnology Products: Risk Assessment Methods and Research Progress. Pensacola, FL. Co-sponsored by EPA, USDA, and Environment Canada. Meeting free of charge. For more details, please call James Harvey at 904-934-9237; Fax: 904-934-9388.

June 10-13: "Value-Added Cereals Through Biotechnology" Saskatoon, Saskatchewan, Canada. For details please call Rosemarie Gallays at 306-975-5571; Fax: 306-975-4839.

June 11-15: Sixth International Conference on Biotechnology in the Pulp and Paper Industry. Vienna, Austria. Call +43-1-4080059; Fax: +43-1-4022030.

June 19-30: Advances in Molecular Genetics. Madison, WI. An international course in recombinant DNA. Co-sponsored by BioPharmaceutical Technology Center Institute and the University of Wisconsin. For details, please call 608-273-9737; Fax: 608-273-6992; E-mail: kborgh@promega.com

June 23: Food Animal Biotechnology Center (FABCenter) Symposium '95. St. Paul, MN. For details, please call 612-624-7279; Fax: 612-624-7284.

June 23-26: "8th International Symposium on Staphylococci and Staphylococcal Infections." Aix-Les-Bains, France. For details, please call 33-1-4568-8179; Fax: 33-1-45-6746-98.

June 23-26: "Biotech China '95." Beijing, China Contact Mr. Limin Jin, Beijing Yuanping Biotech CoLtd., No. 2 Bldg., 4 Yongding Road, Haidian District, Beijing 100039, PR China.

June 26: Meeting of USDA's ABRAC. Rosslyn, VA. For more details, please see article on page 2 or call 202-720-5853.

July 29-Aug. 2: Annual Meeting of the American Society of Plant Physiologists. Charlotte, NC. Call Sharon Kelly at 301-251-0560; Fax: 301-279-2996; E-mail: skelly@aspp.org

Aug. 24-25: Biotech Patent Forum. To be held the first day in Rockville, MD and the second day in Washington, DC. Sponsored by the American Type Culture Collection. For more details, please call 301-231-5566.

NOTES

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